

Title (en)  
CORROSION RESISTANT METALS AND METAL COMPOSITIONS

Title (de)  
KORROSIONSBESTÄNDIGE METALLE UND METALLZUSAMMENSETZUNGEN

Title (fr)  
COMPOSITIONS MÉTALLIQUES ET MÉTAUX RÉSISTANT À LA CORROSION

Publication  
**EP 3215649 A4 20180704 (EN)**

Application  
**EP 15856478 A 20151023**

Priority  
• US 201462074700 P 20141104  
• US 2015057029 W 20151023

Abstract (en)  
[origin: WO2016073218A1] A metal article including an at least partially heat treated metal composition, and a method for treating the metal article are provided. The method for treating the metal article may include heating the metal article to a first holding temperature of about 690°C, and holding the metal article at the first holding temperature for at least about 10 hours. The method may also include cooling the metal article from the first holding temperature to a first cooling temperature of about 65°C or less. The method may further include heating the metal article to a second holding temperature of about 615°C, and holding the metal article at the second holding temperature for at least about 10 hours. The method may also include cooling the metal article from the second holding temperature to a second cooling temperature of about 65°C or less.

IPC 8 full level  
**C22C 38/00** (2006.01); **C22C 38/44** (2006.01); **C22C 38/52** (2006.01); **C22C 38/60** (2006.01)

CPC (source: EP US)  
**C21D 6/004** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/42** (2013.01 - EP US); **C22C 38/44** (2013.01 - EP US); **C22C 38/46** (2013.01 - EP US); **C22C 38/52** (2013.01 - EP US); **C21D 2211/008** (2013.01 - EP US)

Citation (search report)  
• [XA] EP 0286675 A1 19881019 - JAPAN STEEL WORKS LTD [JP]  
• [XA] FERRENO D ET AL: "Failure analysis of a Pelton turbine manufactured in soft martensitic stainless steel casting", ENGINEERING FAILURE ANALYSIS, PERGAMON, GB, vol. 18, no. 1, 1 January 2011 (2011-01-01), pages 256 - 270, XP027507049, ISSN: 1350-6307, [retrieved on 20101118], DOI: 10.1016/J.ENGFAILANAL.2010.09.005  
• [XA] WANG P ET AL: "Effect of delta ferrite on impact properties of low carbon 13Cr4Ni martensitic stainless steel", MATERIALS SCIENCE AND ENGINEERING: A, ELSEVIER, AMSTERDAM, NL, vol. 527, no. 13-14, 25 May 2010 (2010-05-25), pages 3210 - 3216, XP026971564, ISSN: 0921-5093, [retrieved on 20100206]  
• [XA] CASAS W J P ET AL: "Fracture toughness of CA6NM alloy, quenched and tempered, and of its welded joint without PWHT", WELDING INTERNATIONAL, TAYLOR & FRANCIS, ABINGDON, GB, vol. 23, no. 3, 1 March 2009 (2009-03-01), pages 166 - 172, XP001520968, ISSN: 0950-7116, DOI: 10.1080/09507110802543344  
• See references of WO 2016073218A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

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**US 2015057029 W 20151023**; CA 2966615 A 20151023; CN 201580072168 A 20151023; EP 15856478 A 20151023; US 201515523036 A 20151023